WHAT IS CLAIMED IS:

1. An apparatus for demodulating signals transmitted from one or more Node-Bs using transmit diversity methods selected on a Node-B basis in a mobile communication system, comprising:

a plurality of fingers assigned on a path-by-path basis for discriminating among multipath signals received from the one or more Node-Bs;

a combiner for selectively combining signals output from the fingers according to the use of transmit diversity;

a transmit diversity controller for determining a transmit diversity method by considering transmit diversity methods used at the Node-Bs; and

a transmit diversity signal processor for demodulating the signals combined by the combiner on the basis of one transmit diversity method selected by the transmit diversity controller.

2. The apparatus as set forth in claim 1, wherein the transmit diversity method comprises one of an open-loop transmit diversity method and a closed-loop transmit diversity method.

3. The apparatus as set forth in claim 2, wherein the open-loop transmit diversity method comprises one of a time-switched transmit diversity (TSTD) scheme and a space-time transmit diversity (STTD) scheme.

4. The apparatus as set forth in claim 2, wherein the closed-loop transmit diversity method comprises one of a first closed-loop transmit diversity mode for performing a compensation operation by taking into account a phase difference between signals received from antennas of each Node-B, and a second closed-loop transmit diversity mode for performing a compensation operation by taking into account the phase difference and a level difference between the signals received from the antennas of each Node-B.

5. The apparatus as set forth in claim 1, wherein the combiner selects and combines all signals output from fingers using transmit diversity and only first antenna components of signals output from other fingers without using the transmit diversity.

6. The apparatus as set forth in claim 1, further comprising:

switches arranged between second antenna component outputs and an input terminal of the combiner so that second antenna component signals can be selectively input into the combiner.

7. The apparatus as set forth in claim 6, wherein the switches are turned on/off by the transmit diversity controller.

8. The apparatus as set forth in claim 1, wherein the transmit diversity controller performs a control operation so that a transmit diversity method of at least one neighboring Node-B is applied to the transmit diversity signal processor where a serving Node-B performs a transmission operation without using transmit diversity.

9. The apparatus as set forth in claim 1, wherein the transmit diversity controller performs a control operation so that a demodulation operation for signals from at least one neighboring Node-B can be performed without using transmit diversity where a serving Node-B performs a transmission operation using predetermined transmit diversity and a transmit diversity method of the neighboring Node-B is different from that of the serving Node-B.

10. The apparatus as set forth in claim 1, wherein the transmit diversity controller performs a control operation so that the transmit diversity signal processor can perform a demodulation operation on the basis of the same transmit diversity method where the Node-Bs use the same transmit diversity method.

11. A method for demodulating signals transmitted from one or more Node-Bs using transmit diversity methods determined on a Node-B basis in a mobile communication system, comprising the steps of:

receiving transmit diversity information of the Node-Bs and selecting one transmit diversity method on the basis of the received transmit diversity information;

assigning multipath signals received from the one or more Node-Bs to a plurality of fingers on a path-by-path basis and discriminating among the multipath signals;

selectively combining signals output from the fingers according to transmit diversity methods used at the Node-Bs; and

demodulating the signals combined by the combiner on the basis of the selected

transmit diversity method.

12. The method as set forth in claim 11, wherein the transmit diversity method comprises one of an open-loop transmit diversity method and a closed-loop transmit diversity method.

13. The method as set forth in claim 12, wherein the open-loop transmit diversity method comprises one of a time-switched transmit diversity (TSTD) scheme and a space-time transmit diversity (STTD) scheme.

14. The method as set forth in claim 12, wherein the closed-loop transmit diversity method comprises one of a first closed-loop transmit diversity mode for performing a compensation operation by taking into account a phase difference between signals received from antennas of each Node-B and a second closed-loop transmit diversity mode for performing a compensation operation by taking into account the phase difference and a level difference between the signals received from the antennas of each Node-B.

15. The method as set forth in claim 11, wherein the combining step is performed by selecting and combining all signals output from fingers using transmit diversity and only first antenna components of signals output from other fingers without using the transmit diversity.

16. The method as set forth in claim 11, further comprising the step of:

allowing switches for switching an output of second antenna components to be turned on/off so that second antenna component signals from fingers can be selectively combined.

17. The method as set forth in claim 11, further comprising the step of:

performing a transmit diversity signal processing operation on the basis of a transmit diversity method of at least one neighboring Node-B where a serving Node-B performs a transmission operation without using transmit diversity.

18. The method as set forth in claim 11, further comprising the step of:

performing a control operation so that a demodulation operation for signals from at least one neighboring Node-B can be performed without using transmit diversity where

a serving Node-B performs a transmission operation using predetermined transmit diversity and a transmit diversity method of the neighboring Node-B is different from that of the serving Node-B.

19. The method as set forth in claim 11, further comprising the step of:

performing a control operation so that a demodulation operation is performed on the basis of the same transmit diversity method where the Node-Bs use the same transmit diversity method.